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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,497	07/17/2003	Tetsuhiro Iwai	35908	2610

116 7590 06/09/2005

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EXAMINER

VINH, LAN

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/621,497

Applicant(s)

IWAI ET AL.

Examiner

Lan Vinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 020904.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II, claims 6-8 in the reply filed on 5/16/2005 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Kakehi et al (US 4,565,601)

Kakehi discloses method for controlling sample temperature in plasma etching. The method comprises the steps of:

placing a substrate 50 on a conductive electrode 20 (col 3, lines 61-63), the electrode 20 has a top surface that is greater in external size than a substrate to be plasma-processed (fig. 1), the substrate has an insulating layer on a front surface thereof (col 9, lines 28-30), the top surface of the electrode has a top surface central area that is inside a boundary line that is distant inward by a prescribed length from an outer periphery of the substrate and in which the electrode/conductor is exposed (fig. 1), a ring-shaped top surface peripheral area 120 that surrounds the top surface central area (fig. 8), the electrode/conductor is covered with an insulating coating 60 (col 5, lines 36-

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39) , plasma processing is performed in a state that the substrate is held by the top surface of the electrode by electrostatic absorption (col 5, lines 18-22), the electrode is being cooled (col 5, lines 55-58), the substrate 50 is mounted on the top surface of the electrode in such a manner that a central portion and a peripheral portion of the insulating layer of the substrate are in contact with the top surface central area and the insulating coating in the top surface peripheral area (fig. 1), the substrate is electrostatically absorbed on the top surface central area by mainly utilizing the central portion of the insulating layer as a dielectric for electrostatic absorption (col 7, lines 28-31), the top surface central area of the electrode 20 is insulated from plasma by bringing the outer peripheral portion of the insulating layer into close contact with the insulating coating (fig. 4)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Kakehi et al (US 4,565,601) in view of Desalvo et al (US 6,884,717)

Kakehi method has been described above. Unlike the instant claimed inventions as per claims 7-8, Kakehi fails to disclose that the semiconductor substrate has logic circuit formed on the front surface and etching away the back surface of the substrate

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Desalvo discloses a method for etching semiconductor wafer that has logic circuit formed on the front surface and thinning /etching away the back surface of the semiconductor wafer (col 4, lines 51-54; fig. 1)

Hence, one skilled in the art at the time the invention was made would have found it obvious to modify Kakehi method by adding the step of thinning /etching away the back surface of the semiconductor wafer as per Desalvo because Desalvo discloses that the use of etching for wafer thinning enables the formation of desirable physically strengthening shapes in the backside material and preventing wafer breakage (col 4, lines 55-60)

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Vinh whose telephone number is 571 272 1471.

The examiner can normally be reached on M-F 8:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571 272 1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'LV', with a long horizontal stroke extending to the right.

LV
June 1, 2005